

GreenWatts Solar Panels

# SUPERIOR PERFORMANCE & RELIABILITY

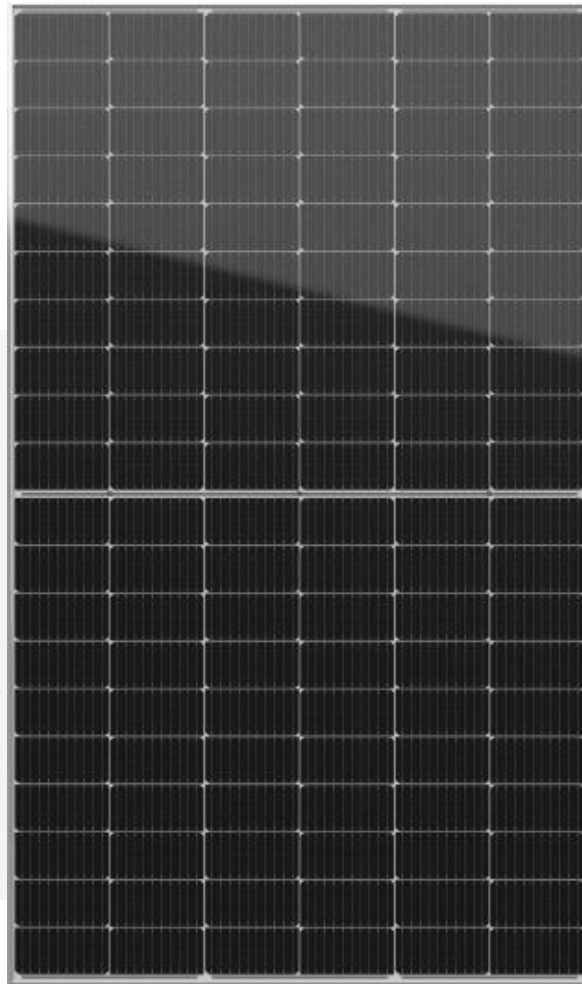
## HS60-460-MN

HT60-18X-460

Solar Panel Monocrystalline  
Single Glass Perc Module

### HIGHLIGHTS

- Maximum Power Output: 460W
- Maximum Efficiency: 21.2%
- Number of Cells: 120 (6x20)



### Optimized for High Voltage Systems

- Specifically designed to align with advanced high voltage system requirements.
- Maximum Efficiency up to 21.2%
- Cost effective solutions designed to offer a competitive balance of system cost suitable for utility-scale projects.



### Enhanced Efficiency with Half Cut Cell Technology

- Minimizes resistive losses and reduces shading impact, boosting overall efficiency.
- Ensures long term performance against Potential-Induced Degradation.



### Durability in Extreme Conditions

- Engineered to endure harsh environmental conditions, such as extreme temperatures, high humidity, salt, mist, and sand.
- Supports up to 5400 Pa for snow loads and 2400 Pa for wind loads, reinforcing module reliability in diverse environmental conditions.

### High Reliability



Certification:



ISO 9001  
ISO 14001  
ISO 45001

UL 61730

IEC 61215  
IEC 61730



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## MECHANICAL CHARACTERISTICS

Solar Cell	Monocrystalline 182 x 91mm
Number of Cells	120 (6x20)
Dimensions	1909 x 1134 x 30mm 75.16 x 44.65 x 1.18 inches
Weight	23.0 kg   50,706 lb
Glass	High light transmittance coated tempered glass
Frame	Anodized aluminium alloy
Junction Box	IP68 Rated
Output Cables	4mm <sup>2</sup>   0.00620001 in <sup>2</sup> (IEC)
Connectors	MC4
Maximum Power in STC (Pmax)	460 W
Maximum Operating Voltage (Vmp)	35.08 V
Maximum Operating Current (Imp)	13.13 A
Open Circuit Voltage (Voc)	41.63 V
Short Circuit Current (Isc)	14.04 A
Module efficiency	21.2%
Operating Temperature of the module	-40°C ~ +85°C
Maximum System Voltage	1500V DC
Power Tolerance	0 ~ +3%
STC	Irradiance 1000W/m <sup>2</sup> , Cell Temperature 25°C, Air Mass 1.5

## TEMPERATURE CHARACTERISTICS

NMOT	43 ±2 °C 109.4 ±35.6 °F
Temperature Coefficient of PMAX	-0.33% /°C
Temperature Coefficient of VOC	-0.26% /°C
Temperature Coefficient of ISC	+0.042% /°C

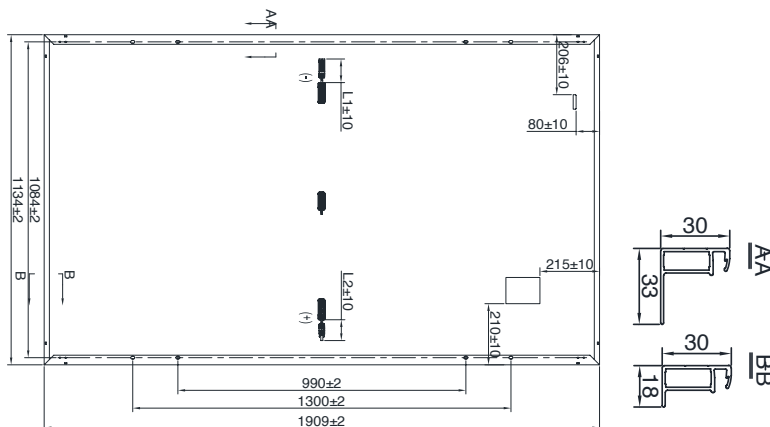
## PACKING CONFIGURATION

Module per Box	36 Pieces
Module per 40' Container	864 Pieces

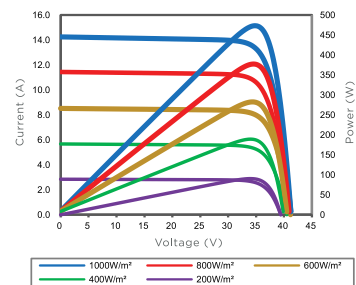
## ADDITIONAL INFORMATION

Snow and wind loads	Wind - 2400Pa Snow - 5400Pa
IEC Protection Class (I, II, III)	II
Max installation altitude	2000m
Allow roof pitch/angle	Minimum 10 degrees
Max Series Fuse Rating	25A
Fire Rating	Type 1
Front Cover (material / glass thickness)	AR 3.2mm
Back Cover (material / glass thickness)	0.315mm

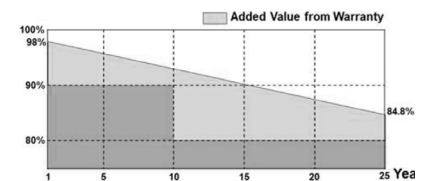
## ENGINEERING DRAWING



## IxV CURVE



## PERFORMANCE WARRANTY



\*Specific information is referred to the product quality guarantee